

## **REMARKS**

The application contains claims 7-10, 16-26, and 28-36. In view of the following remarks, Applicants respectfully request allowance of the application.

### **PRIOR ART REJECTIONS**

All pending claims stand rejected based on prior art. Applicants respectfully request withdrawal of these outstanding rejections because the prior art does not disclose, teach, or suggest all elements of the pending claims.

#### **Claims 7-8 are allowable over the cited art.**

Claim 7 stands rejected as anticipated by Davis (U.S. Patent No. 5,844,986). Claim 7 recites in part:

upon restart of the processor, determining whether system memory contains a BIOS package.

Davis fails to disclose, teach, or suggest this subject matter. The Office Action alleges that Davis, col. 3, lines 47-54 discloses this claimed feature. Applicants respectfully disagree. FIG. 3 describes Davis' BIOS modification process. In Davis, the "replace BIOS" command is generated by a BIOS management utility software running either on the host processor or on a remote system. See Davis, col. 3, lines 50-52. The new BIOS program is then stored internally or in a protected manner to ensure that future authentication operations are performed on the specified new BIOS program. See Davis, col. 3, lines 58-60. Thus, in Davis, when the processor restarts, the authentication is performed on the specified new BIOS program without any check to determine whether the system memory contains a BIOS package. Accordingly, the § 102 rejection to claim 7 must be withdrawn. Claim 8, which depends from independent claim 7, also defines over the cited art.

#### **Claims 9-10 are allowable over the cited art.**

Claim 9 stands rejected as anticipated by Cooper et al. (U.S. Patent No. 5,805,882). Claim 9 recites in part:

a second storage space to store a second system BIOS and an index table, the index table associating elements of the second system BIOS with elements of the first system BIOS.

Cooper does not disclose, teach, or suggest this subject matter. The Office Action alleges that the existence of an index table is inherent because Cooper discloses memory mapping. Applicants respectfully disagree. Cooper, at best, discloses RAM shadowing where a portion of the ROM BIOS is copied into the DRAM, and the address of the DRAM section holding the ROM BIOS copy is then mapped onto the flash ROM address to give the same address as the ROM. Shadowing is typically performed to accelerate memory access as disclosed in Cooper. As is well known to those skilled in the art, the drawback of RAM shadowing is that the RAM set aside for shadowing cannot be used for anything else, and thus, a corresponding amount of extended memory (RAM) is lost. It appears that Cooper divides the RAM into three different ranges to minimize the amount of the RAM set aside for shadowing and to maximize its use. This memory space allocation, however, does not imply that Cooper uses an index table associating elements of the second system BIOS with elements of the first system BIOS. Neither memory shadowing nor memory mapping requires the use of an index table. Thus, it is improper to make such an inference. Accordingly, the anticipation rejection to claim 9 must be withdrawn. Claim 10, which depends from independent claim 9, also defines over the cited art.

**Claims 16-19 are allowable over the cited art.**

Claim 16 also stands rejected as anticipated by Cooper. Claim 16 recites in part:

determining whether an ancillary BIOS exists in an alterable memory space,  
if no ancillary BIOS exists in the alterable memory space, executing an ancillary BIOS  
from the default memory space.

Cooper does not disclose, teach, or suggest this claimed feature. The Office Action alleges that Cooper discloses the claimed features of claim 16 because "with the BIOS being shadowed, this gives the operating system two areas to choose to access the BIOS." This is simply not true. As discussed before, shadowing refers to a process of copying the contents of the flash ROM to the DRAM. The purpose of RAM shadowing is to accelerate the BIOS routine because the flash ROM has a longer access time than the DRAM. In Cooper, the flash ROM is simply copied to the DRAM regardless of whether an ancillary BIOS exists. Moreover, once the flash ROM is copied to the DRAM, there is no need/reason to execute the BIOS from the flash ROM because the flash ROM has a longer access time than the DRAM. Thus, Cooper does not "give the

operating system two areas to choose from to access the BIOS.” For at least these reasons, the anticipation rejection to claim 16 must be withdrawn. Claims 17-19, which depend from independent claim 16, also define over the cited art.

**Claims 20-21 and 31-32 are allowable over the cited art.**

Claims 20-21 stand rejected as anticipated by Noll (U.S. Patent No. 6,185,696 B1). Claims 31-32 stand rejected as obvious over Noll in view of Bodin et al. (U.S. Patent No. 6,091,430). Claims 20 and 31 recite in part:

if the ancillary BIOS package is present, determining whether a predetermined user command has been entered,  
if the predetermined user command has not been entered, executing the ancillary BIOS package from the enhancement space.

Noll does not disclose, teach, or suggest this claimed feature. The Office Action alleges that, in Noll, “if the user does not reset, the ancillary BIOS is executed, else it is not.” Applicants respectfully disagree. In Noll, the user does not choose whether to reset or not. Rather, when the computer has been turned on, the CPU automatically resets the error flag. Noll, col. 7, lines 3-6. The CPU then determines whether the primary BIOS ROM contains a data error. Noll, col. 7, lines 6-8. If there is no data error, the CPU executes the BIOS from the primary BIOS ROM. If there is a data error, the CPU executes the BIOS from the secondary ROM. Thus, Noll’s reset flag has nothing to do with whether the BIOS is executed from the primary or secondary ROM. Accordingly, contrary to the Office Action’s contention, Noll’s reset flag does not “represent” any user command.

Bodin does not cure Noll’s deficiency. Bodin also fails to disclose, teach, or suggest a predetermined user command or any equivalent feature thereof. Additionally, the Office Action fails to provide any evidence of motivation or suggestion for the alleged combination. Accordingly, the anticipation rejection to claim 20 and the obviousness rejection to claim 31 must be withdrawn. Claims 21 and 32, which depend from independent claims 20 and 31, respectively, also define over the cited art.

**Claims 22-25 and 33-36 are allowable over the cited art.**

Claims 22-25 stand rejected as anticipated by Noll. Claims 33-36 stand rejected as obvious over Noll in view of Bodin. Claims 22, 24, 33, and 35 recite in part:

determining whether an ancillary BIOS package is present in an enhancement space of firmware, the ancillary BIOS package including a BIOS update [claims 22, 24];

determining whether a video BIOS package is present in an enhancement space of firmware, the video BIOS package in the enhancement space including a BIOS update [claims 33, 35].

Noll does not disclose, teach, or suggest this claimed feature. The Office Action alleges that Noll teaches an ancillary BIOS package including a BIOS update. Applicants respectfully disagree. Noll's secondary BIOS ROM contains a backup copy of the BIOS package, but the backup copy is of the same type as the BIOS package in the primary BIOS ROM. Noll, col. 3, lines 22-25. Thus, the secondary BIOS ROM does not include a "BIOS update." Moreover, Noll does not disclose determining whether an ancillary BIOS package is present in the enhancement space of firmware. Because Noll always includes the BIOS package in both ROMs, there is no need/reason to determine whether the BIOS update is present in either the primary ROM and/or the secondary ROM. The only determination made in Noll is whether the primary BIOS ROM contains a data error. Thus, Noll fails to disclose, teach, or suggest this subject matter.

Additionally, Bodin does not overcome the deficiency of Noll. In particular, Bodin does not mention a system BIOS. Also, Bodin fails to disclose, teach, or suggest a video BIOS in the enhancement space that includes a BIOS update. Further, Bodin does not disclose determining whether a video BIOS package is present in an enhancement space during execution of a system BIOS. Moreover, the Office Action alleges, without citing to the references, that it would be obvious to combine the teachings of Noll and Bodin because the video BIOS and the system BIOS have analogous functionality. This assertion is unsupported because there is nothing in Noll or Bodin that provides any suggestion or motivation to combine these two references. Accordingly, the anticipation rejections to claims 22 and 24 and the obviousness rejections to claims 33 and 35 must be withdrawn. Claims 23, 25, 34, and 36, which depend from independent claims 22, 24, 33, and 35, respectively, also define over the cited art.

**Claims 26 and 28-30 are allowable over the cited art.**

Claim 26 stands rejected as obvious over Bodin. Claim 26, as amended, recites in part:

during execution of a system BIOS, determining whether a video BIOS exists in an alterable firmware section of a memory system,

if no video BIOS exist in the alterable section, executing a video BIOS in a nonalterable firmware section in the memory system.

Bodin fails to disclose, teach, or suggest this subject matter. The Office Action alleges that Bodin, col 4, lines 41-45 and col. 5, lines 9-22 and 31-40 discloses this claimed feature. Applications respectfully disagree. Bodin discloses a virtual device driver that supports high-resolution graphics using multiple virtual DOS applications. When the DOS application updates the display, *the system writes to the video hardware (SGVA adapter) via a BIOS if the display data includes substantial changes*. See Bodin, col. 4, lines 41-45. Bodin, col. 5, lines 9-22 and 31-40 then discloses in detail how the display data is written to the video hardware in two different embodiments. Bodin, however, does not disclose a memory system having a nonalterable firmware section and an alterable firmware section, let alone a nonalterable firmware section having a system BIOS and a video BIOS. Additionally, Bodin is silent on whether the display data is written to the video hardware during execution of a system BIOS.

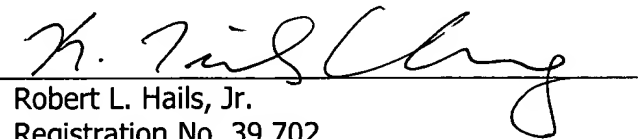
Accordingly, the obviousness rejection to claim 26 must be withdrawn. Claims 28-30, which depend from independent claim 26, also define over the cited art.

### **CONCLUSION**

In view of the above amendments and remarks, Applicants respectfully submit that the present application is now in condition for allowance. A timely Notice to that effect is earnestly solicited. The Examiner is invited to contact the undersigned at (202) 220-4200 to discuss any aspect of the application.

Respectfully submitted,

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